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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,451	11/12/2003	Dale Wolin	10012464-4	9435

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HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P. O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER
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BERHANU, SAMUEL

ART UNIT	PAPER NUMBER
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2838

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/05/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<p align="center"><b>Office Action Summary</b></p>	<p>Application No.</p> <p align="center">10/712,451</p>	<p>Applicant(s)</p> <p align="center">WOLIN ET AL.</p>	
	<p>Examiner</p> <p align="center">Samuel Berhanu</p>	<p>Art Unit</p> <p align="center">2838</p>	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 November 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9-11, 14, 15, 17, 26-28, 30, 31, 33, 39 and 43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-11, 14-15, 17, 26-28, 30-31 and 33 is/are allowed.
- 6) ☒ Claim(s) 39 and 43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| <p>1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br/> Paper No(s)/Mail Date _____</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)<br/> Paper No(s)/Mail Date. _____</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</p> <p>6) <input type="checkbox"/> Other: _____</p> |
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## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakakibara (US 6,433,517) in View of Kumar et. al. (US 6,331,761).

Regarding Claim 39, Sakakibara discloses in Figures 4 and 5, a charging circuit (30) for providing a charging current to the battery; a temperature sensor (38) positioned to senses a temperature of said battery; a controller (36) coupled to said temperature, sensor and said charging circuit and operable to control said charging circuit in accordance with said temperature, said controller being operable to said charging current to a maximum value when said temperature is lower than a first predetermined threshold value, said maximum value being the battery's maximum specified charging current, and said first predetermined threshold value being the battery's maximum charging temperature and said controller being operable to minimize said charging current when said temperature is higher than a second predetermined threshold value (Noted that the controller is selecting a charging current based on the temperature of the battery, when the temperature is high then the charging current is adjusted to low and when the temperature is low then the charging current is adjusted to high, see also Column 2, lines 16-18, Column 3, lines 9-14,

Column 5, lines 6-12); Sakakibara does not disclose explicitly, the temperature sensor senses that temperature of the battery and the loads. However, Kumar et. al. disclose in Column 16, lines 1-2 and Column 16 lines 16-22, the temperature sensor senses that temperature of the battery and the loads. It would have been obvious to a person having ordinary skill in the art at the time of the invention to incorporate a load temperature sensor in Sakakibara's battery charger as taught by Kumar et. al. in order control the battery charging and providing terminating the discharging of the battery to give load the opportunity to cool to an acceptable level.

3. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ng et al. (US 5,936,383) in view of Sakakibara (US 6,191,560).

Regarding Claim 43, Ng et al. disclose in figure 1, a method of exercising a battery Coupled to a load, the method comprising the steps of: sensing a temperature related to the battery temperature and the temperature of the load (see column 5, lines 44-55), discharging the battery at said discharging current (see column 7, lines 20-22), discontinuing said discharging step when a predetermined battery voltage is reached (see column 3, lines 22-25), except for Ng et al. do not disclose explicitly, setting a discharging current in accordance with said temperature and setting a charging current in accordance with said temperature, said setting step further including the step of minimizing said discharging current when said temperature is higher than a first predetermined threshold value; and charging the battery at said charging current. However, Sakakibara discloses in Figures 4-9, setting a charging current in accordance with said temperature (Column 2, lines 11-12, 21-26,) said setting

step further including the step of minimizing said discharging current when said temperatures higher than a first predetermined threshold value; and charging the battery at said charging current (column 2, lines 32-34, Column 3, lines 60-67, and Column 4, lines 1-10) (Noted that the charging current is adjusted based on the temperature value, it is also evident that when the charging current is increased the discharging current is decreased ). It would have been obvious to a person having ordinary skill in the art to use a charging means for charging the battery based on a battery temperature as taught by Sakakibara in Ng et. al. device in order to provide a battery charger capable of 100% charging a battery without overcharging and overheating. Tajima et. al. disclose in Paragraph 0035, , setting a discharging current in accordance with said temperature. It would have been obvious to a person having ordinary skill in the art to use a charging means for discharging the battery based on a battery temperature as taught by Takima et. al. in Ng et. al. device in order to control charging and discharging operations of a power storage device without damaging energy saving effects provided by charging.

#### ***Response to Arguments***

4. Applicant's arguments see page 7, lines 2-6, filed 11/20/2006, with respect to the rejection(s) of claim(s) 43 under 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Tajima et. al.

Finally, as pointed out by the applicant, a typo error is found in the prior office communication, the rejection of Claims 17-19 on page 4 was meant to say a rejection of Claims 18-20. Applicant is respectfully advised to make a note of this correction.

***Allowable Subject Matter***

1. Claims 9-11, 14-15, 17, 26-28, 30-31 and 33 allowed.
2. The following is an examiner's statement of reasons for allowance:

For Claim 9, primarily, the prior art of record does not disclose or suggest in the claimed combination: a memory coupled to said controller having a look up table with temperature versus discharging current and values of said variable impedance load stored therein, whereby said controller accesses said look up table to set said discharging current.

For Claim 26, primarily, the prior art of record does not disclose or suggest in the claimed combination: setting a discharging current in accordance with said temperature by recalling a discharging current corresponding to said sensed temperature from a look up table; discharging the battery at said discharging current with; discharging circuit having a variable impedance load, the impedance of said load being Selected from said look up table.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel Berhanu whose telephone number is 571-272-8430. The examiner can normally be reached on M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on 571-272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SB

  
Adolf Deneko Bernhart  
Primary Examiner